Syllabus

# Course Information

|  |  |
| --- | --- |
| Course Title | Trigonometry |
| Course No. & Section | Math 144 |
| Semester & Year | Winter 2024 | Credit Hours | 2 |
| Course Location/Delivery | *GHS RM 1* |
| Office Hours | 7:20-7:45 AM, 9:25-10:20 AM, 3:45-4:15 PM |
|  | If you want time set aside please contact me by email to set time up for you. If I have time I will help and assist you, remember that at 9:25-10:20 AM you do have a class, you may not skip that class just to come to mine unless you have a good reason to do so. |

# Instructor Information

|  |  |
| --- | --- |
| Instructor Name | Benjamin Neilson |
| Office Address | GHS RM 1 |
| Office Phone | (208) 934-4831 Ext. 3311 |
| Email Address | benjamin.neilson@goodingschools.org |
| Communication Advice | Email is the best way to contact me for questions. I will answer all emails within 24 hours Monday-Thursday. If you reach me on the weekend you may need to wait until Monday to receive help and instruction |

# Textbook and Required/Optional Materials

|  |  |
| --- | --- |
| Required Text – Title | Materials will be given throughout. If you want you can purchase a class code at Thinkwell.com however this is not required but what we will be going over. |
| Author of Text | Thinkwell.com |
| Edition | N/A |
| ISBN No. | N/A |
| Required Materials | N/A |
| Optional Materials | Thinkwell.com |

Student Learning Outcomes

## Catalog Description

## Purpose of the Course

The Course Objective is to provide students with the mathematical foundation necessary for future mathematics courses and to be able to learn new concepts helpful to them as employees, citizens, and consumers. This will also help students understand the ratios that exist in the world and how they can be identified and utilized throughout their mathematical journey.

## Program Learning Outcomes

Upon completion of this program, students will be able to …

1. Students will be able to apply Trigonometric Content
2. Students will use and understand Trigonometric Functions
3. Students will use and understand Trigonometric Identities
4. Students will use and understand related Trigonometric Concepts

## Course Student Learning Outcomes (SLO)

Upon completion of this course, students will be able to …

1. SLO 1 Apply Trigonometric Content
	1. Create Mathematical models
	2. Solve Application Problems
	3. Justify and interpret solutions within context of the problem
	4. Communicate Rationale behind choice of strategy
2. SLO 2 Use and Understand Trigonometric Functions
	1. Understand right triangle and circular functions with their definitions
	2. Evaluate trigonometric functions and their inverses
	3. Solve right triangles
	4. Solve trigonometric equations
	5. Identify and create sine and cosine graphs and perform simple transformations
3. SLO 3 Use and Understand Trigonometric Identities
	1. Simplify trigonometric expressions
	2. Verify trigonometric identities
	3. Evaluate trigonometric functions
	4. Solve any triangle
4. SLO 4 Use and Understand Related Trigonometric Concepts
	1. Use and understand complex numbers in trigonometric form
	2. Solve polar equations
	3. Solve parametric equations

## General Education Program Learning Outcomes, College of Southern Idaho

Upon completion of this General Education course, students will be able to …

**THINK**

* Use multiple approaches and terminologies to discuss, analyze, solve, interpret and create in disciplines.

## State of Idaho, Ways of Knowing Outcomes or Competencies

[*https://boardofed.idaho.gov/search/?\_sf\_s=ways%20of%20knowing*](https://boardofed.idaho.gov/search/?_sf_s=ways%20of%20knowing) *Retrieved April 12, 2019*

To meet the mathematics requirement of the general education core, courses must cover the competency/knowledge objectives below.

1. Interpret mathematical concepts.
2. Represent information/data.
3. Use appropriate strategies/procedures when solving mathematical problems.
4. Draw reasonable conclusions based on quantitative information.

# Grading and Evaluation *Modify the below table to represent your course evaluation methods*

|  |  |
| --- | --- |
| **Assignments**(In and out of class activities such as writing, reading, experiments, works of art, multi-media production, case study, etc. to assist in learning skills and concepts.) | 15% |
| **Class and Team Participation** (A teaching strategy requesting students to ask questions, raise one's hand, and make comments in class, out of class, and or online.) | 20% |
| **Final Exam** (An end of course test to evaluate knowledge and skills.) | 20% |
| **Quizzes**(A low stakes or non-graded questioning technique to assist students in retrieving information and to evaluate learning.) | 5% |
| **Exams**(Periodic exams that occur four times a semester, these cannot be retaken or reworked and must be completed in the time given) | 40% |
| Total  |  |

## Grade Scale

Based on the 100% total listed above, letter grades will be assigned as follows: *Modify the below table to represent your course evaluation methods*

|  |  |  |
| --- | --- | --- |
| A: 90 % or above | B: 80 % to 89.9 % | C: 70 % to 79.9 % |
| D: 60 % to 69.9 % | F: below 59.9 % | I: incomplete  |

## For more on the grade of incomplete, [click here](https://csi.smartcatalogiq.com/2020-2021/Catalog/Being-a-Student/Student-Records-and-Registration/Incompletes) (*College Catalog*, page 16)

*Use this space, if you want to discuss your use of the grade of incomplete; otherwise, delete the highlight.*

# Course Expectations

Student Responsibilities for Learning (meaning, what I can expect from you?)

* Attend class regularly, arrive on time, and be ready to actively engage in the class.
* Turn in work reflecting your time, effort and understanding.
* Complete prep work when assigned.
* Act in class while keeping the rules in the student planner.
* Leave the room with it looking as good as when you arrived.
* Put back learning materials when you are finished with the day.
* Stay off electronic devices unless approved.

Faculty Responsibilities for Teaching (meaning, what you can expect from me?)

* Assess your progress regularly and respond promptly to clarify expectations.
* Assist students with questions or concerns they may have concerning the class.
* Prepare appropriate materials for classroom instruction.
* Give my attention to the class during class times and if scheduled with a student give appropriate instruction during office hours

# Course Details

## Dropping a Course and Withdrawal

The drop period for full semester courses ends on the first Sunday following the beginning of the term. A dropped course is not reflected on the student’s transcript. The withdrawal period then begins and lasts through 75% of the course. Withdrawal means the student attempted the course but did not complete any credit; the grade of W will appear on the student’s transcript.  Students are responsible for all tuition and fees associated with withdrawn courses.  No course may be withdrawn from after 75% of the course has elapsed. Students will be issued a grade after this deadline. Drop and Withdraw deadlines for non-standard courses can be found on the student’s schedule in MyCSI.

In order to withdraw from one or more courses, a completed Add/Drop/Withdraw form is required, which can be found in MyCSI or at the Office of the Registrar. Students withdrawing from all credited courses must receive a Financial Aid signature prior to submitting the form to the Office of the Registrar or any off-campus center.

## W grades can have a number of negative consequences, including negatively impacting students’ eligibility for Federal Financial Aid. Ws on transcripts can also raise questions by transfer institutions and even prospective employers. Students should carefully consider the consequences of Ws before withdrawing from courses.

## Attendance Verification for Financial Aid

Attendance Verification is submitted each semester. Your Federal Student Aid is based on your academic attendance and participation in an academically-related activity, see [csi.edu/financialAid](http://www.csi.edu/financialAid/).

Distance Learning and Testing (Online Courses Only)

This online course requires students to take proctored exams in a face-to-face setting.  Free proctored testing is available at the CSI Testing Center as well as at CSI’s off-campus centers in Gooding, Hailey, Jerome, and Burley.  Further, free proctored testing is available at North Idaho College, College of Western Idaho, and College of Eastern Idaho. Students who live outside of these areas will be required to take exams in proctored environments.  In some cases, testing centers charge a fee for their services.  Students are responsible to pay these testing fees.  Students are encouraged to research proctored testing options at the beginning of the course to determine the potential cost of these services.

## Inclusive Access (Inclusive Access Courses Only)

This course is included in CSI’s Inclusive Access Program. This grants you access to your required course materials digitally by the first day of class at the discounted rate the College and the Bookstore has negotiated on your behalf for the lowest possible price. Your student account will be charged the discounted textbook fee on or before the first day of class if you choose to participate. No further textbook purchase is necessary. If for any reason you decide to purchase your materials elsewhere you can opt-out of this program by the add/drop deadline, and your account will not be charged.

 If you have additional questions you can visit our FAQ page on the CSI website at [https://www.bookstore.csi.edu/Inclusive-access.asp? (Links to an external site.)](https://www.bookstore.csi.edu/Inclusive-access.asp)

## Dual Credit

If you are participating in CSI Dual Credit program, be aware that enrollment and tuition payment deadlines may be different than the published Instructional Calendar dates. Please go to [www.csi.edu/dualcredit](http://www.csi.edu/dualcredit) for more information on the CSI Dual Credit enrollment process, deadlines, and State of Idaho Advanced Opportunities Fast Forward funding.

## Library

## The CSI Library is located on the main floor of the Meyerhoeffer Building and offers a variety of information resources and services to CSI students (including distance learning students taking classes online or at the off-campus centers). A current CSI student identification card is required to check out materials from the library.

## The library has an open computer lab, study carrels, comfortable seating, study rooms, quiet study room, and the Eagles’ Perch (student lounge). The library collections include: books, e-books, reference works, government documents, journals and magazines (both printed and electronic formats), newspapers, DVDs, and CDs. The library also offers access to a variety of online information resources and services: journal databases, e-journals, e-books, online films, and downloadable audiobooks.

## All online resources are available to students on and off campus. The library’s online catalog which quickly identifies materials that the library owns, and all electronic resources are accessible from any computer with an Internet connection. The library also offers interlibrary loan services (where resources are borrowed from other libraries).

## Reference and research assistance is provided, as well as information literacy instruction. Library instruction is available to classes and student groups, and is tailored to the students’ specific needs. “Your Guide to Research,” a self-paced Canvas course which provides information on all of the libraries many resources and research strategies, is available for your personal use through self-enrollment. For more information and to access our online resources and services visit the CSI Library Web site at: [www.csi.edu/library](http://www.csi.edu/library).

## Learning & Tutoring Commons

We are here to help you succeed! Come see us if you want a bright, open and interactive study area. We can provide you with an extra hand learning course concepts, working through assignments or developing additional learning strategies and technology skills.

Why use us? We can help you save time and frustration! Research shows that most successful students at CSI use our services and engage with their peers in learning outside of class.

How does it work? All services are free. No appointments are needed, just drop in - whether it be for five minutes or five hours. Together we can utilize methods that best facilitate your individual learning, such as

* Brainstorming on whiteboards
* Talking aloud
* Drawing concept maps
* Walking through your presentation on the big screen

Questions? For more information, visit us on the second floor of the Meyerhoeffer Building (above the library), check us out at www.csi.edu/ip/adc/lap/, or call us at 208.732.6685.

Evaluations

Students are strongly encouraged to complete evaluations at the end of the course. Evaluations are very important for assisting the teaching faculty in continually improving the course. Reach the CoursEval portal by clicking on *MyCoursEval* in the navigation menu of any class on Canvas or evaluations are available through MyCSI [https://csioffice.sharepoint.com/sites/mycsi/academics/mycourses/](https://csioffice.sharepoint.com/sites/mycsi/academics/mycourses) Students will receive an email when the evaluation becomes available and then have up to two weeks to submit the evaluation before the end of the course. Evaluations are anonymous and anonymous results are not available to faculty until after grades are submitted.

Help Desk

Students needing assistance with CSI email or Canvas login are encouraged to contact the Helpdesk via email at helpdesk@csi.edu or via telephone at 208-732-6311.

# Course Calendar\*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Week | Date | Topic | Instructional Activities | SLO Number Supported | Assignment Due DatesExam Dates |
| 1 | 1/8 | Angles/Unit-Circle/Right Triangle Trig Functions | Circles: Arc Length and Area of a SectorUnit Circle and Special Angles/CoordinatesAngles: Reference Angles/Coterminal Angles | SLO 1 | Fill out Unit Circle and Memorize |
| 2 | 1/15 | Angles/Unit-Circle/Right Triangle Trig Functions | Six Trig Ratios: Right TrianglesEvaluating Trig Functions and Inverse FunctionsSolving Right triangles | SLO 1 - 2 | First Exam 1/17 |
| 3 | 1/22 | Angles/Unit-Circle/Right Triangle Trig FunctionsGraphs/Basic-Pythagorean Identities/Equations | Graphing sin(x), cos(x) and tan(x) Transformations of sin/cos/tan graphs Intro to secant/cosecant/cotangent graphs | SLO 2 |  |
| 4 | 1/29 | Graphs/Basic-Pythagorean Identities/Equations | Identities: Basic Identities Pythagorean Identities Simplify/Verify/Prove  | SLO - 2 |  |
| 5 | 2/5 | Graphs/Basic-Pythagorean Identities/Equations | Equations: Solve both Restricted Domain Equations and All Solution Equations Solving using Inverse Trig function Solve using identities Solve by factoring | SLO - 2 |  |
| 6 | 2/12 | Graphs/Basic-Pythagorean Identities/Equations | Equations: Solve both Restricted Domain Equations and All Solution Equations Solving using Inverse Trig function Solve using identities Solve by factoring | SLO - 2 |  |
| 7 | 2/19 | Graphs/Basic-Pythagorean Identities/EquationsLaw of Sines/Cosines/Heron’s Formula | ReviewSolve Non-Right Triangles with Identities | SLO 2 - 3 | Unit 2 Exam: 2/21 |
| 8 | 2/26 | Law of Sines/Cosines/Heron’s Formula | Sum/Difference Identities Double Angle Identities | SLO 3 |  |
| 9 | 3/4 | Law of Sines/Cosines/Heron’s Formula | Half-Angle Identities Laws of Sine/Cosine | SLO 3 |  |
| 10 | 3/11 | Law of Sines/Cosines/Heron’s Formula | Heron’s Formula in Applied Problems | SLO 3 |  |
| 11 | 3/18 | Law of Sines/Cosines/Heron’s FormulaPolar/Rectangular/DeMoivre’s/Parametric | ReviewWriting and Graphing (x,y) to (r, theta) equations Polar/Rectangular | SLO 3-4 | Unit 3 Exam: 3/20 |
| 12 | 4/1 | Polar/Rectangular/DeMoivre’s/Parametric | Writing and Graphing (x,y) to (r, theta) equations Polar/Rectangular Finding nth Roots Using DeMoivre’s Theorem | SLO 4 |  |
| 13 | 4/8 | Polar/Rectangular/DeMoivre’s/Parametric | Finding nth Roots Using DeMoivre’s Theorem | SLO 4 |  |
| 14 | 4/15 | Polar/Rectangular/DeMoivre’s/Parametric | Finding nth Roots Using DeMoivre’s TheoremParametric Equations/Graphing | SLO 4 |  |
| 15 | 4/22 | Polar/Rectangular/DeMoivre’s/Parametric | Parametric Equations/Graphing | SLO 4 |  |
| 16 | 4/29 | Polar/Rectangular/DeMoivre’s/Parametric | Parametric Equations/Graphing | SLO 4 |  |
| 17 | 5/6 | Conics | Circles and Ellipses | SLO 4 |  |
| 18 | 5/13 | Conics | Hyperbola and Parabolas | SLO 4 | Exam 5/16 |
| 19 | 5/20 | Review Week | Review for finals | SLO 1-4 |  |
| 20 | 5/27 | FINALS | Complete the final |  | Final Exam |
| Date and Time of Final Exam |  |  |  |  |  |
|  |

*\*Due to unforeseen events, it may be necessary for the course calendar to be altered.*

# Shared Values

The mission of the College of Southern Idaho is to provide quality educational, social, cultural, economic, and workforce development opportunities that meet the diverse needs of the communities we serve.

To accomplish these goals we believe in

1. **Communication.**Email is a primary tool used to share written information related to CSI. All active students have a dedicated CSI email account (<studentname>@csi.edu). Visit [CSI Email](https://www.csi.edu/account/default.aspx) to check your email, and to begin conversations with the faculty and staff at CSI.
2. **Community.** We believe in community building in and out of the classroom. You are encouraged to cultivate partnerships that also develop your social and personal transformation. To see current news and events, visit [csi.edu/calendar](http://www.csi.edu/calendar/).
3. **Equal Access.** We value diversity and inclusion. We are committed to a climate of mutual respect and full participation. If you have a disability that may have some impact on your work in this class, please contact the Office of Disability Services to discuss options, visit [csi.edu/disabilities](http://www.csi.edu/Disabilities/).
4. **Integrity.** We value honesty. CSI students, faculty staff, and administration are expected to be honest in all aspects of their college education and employment. All student work is evaluated with the understanding that the work presented is the individual’s own ideas, concepts and understanding. Please see the Student Code of Conduct at [csi.edu/StudentHandbook](http://www.csi.edu/studentHandbook/) and the Academic Integrity page [csi.edu/StudentHandbook/AcademicIntegrity.asp](http://www.csi.edu/studentHandbook/academicIntegrity.asp).
5. **Inclusiveness.** The College does not exclude from participation in, deny the benefits of, or subject any individual to discrimination on the basis of race, color, national origin, sex, sexual orientation, gender identity, disability, income, protected veteran status, limited English proficiency, or any other status protected under applicable federal, state or local law. If you have concerns, visit [csi.edu/TitleIX](http://www.csi.edu/TitleIX/) for more information.
6. **Safety**. We are committed to providing safe campuses for all students. As a CSI student, staff, or faculty member you are automatically subscribed to the emergency notification system, RAVE [csi.edu/security/rave-alert.asp](http://www.csi.edu/security/rave-alert.asp). Please report any emergency (medical, criminal, behavioral, etc.) by first calling 911 regardless of which campus you are on. If you are on the Twin Falls campus, also call Campus Security at 208-732-6605, [csi.edu/security](http://www.csi.edu/security/).
7. **Student Success.** We are dedicated to your success! Not only can you seek assistance from your professors, but you can also investigate the over 50 dedicated CSI resources and services to support your lifelong goals. You can benefit from services such as the Learning & Tutoring Commons (see <https://quondam.csi.edu/ip/adc/lap/>), Career and Counseling Services, or Child Care. People and resources at the CSI Library can assist you with expert guidance, see [csi.ent.sirsi.net](https://csi.ent.sirsi.net/). You can get involved in activities designed to complement your studies and build your resume through the Office of Student Activities. For a complete list of resources and services, visit [csi.edu/currentstudents/#services](http://www.csi.edu/currentstudents/)
8. **Emergency Response Disclaimer:** The College is committed to creating a safe learning environment that meets the needs of our diverse student body. The health, safety, and well-being of our students is paramount. The College closely monitors national, regional, state, and local emergencies and acts accordingly to public health guidance and directives.

The College will make every effort to offer courses and related support services as scheduled during an emergency event. However, all courses and related support services are subject to change in delivery method, schedule, or other potential modification as a direct or indirect result of the emergency event. We ask that students take an active role in an emergency event by following all health guidance, policies, and regulations communicated by the College, governmental authorities, and public health officials.